NOTICE

U.S. Department of Transportation
Federal Aviation Administration

N 8100.14

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Cancellation
Date: 10/1/99

SUBJ: IMPLEMENTATION OF AIRCRAFT CERTIFICATION SYSTEMS EVALUATION PROGRAM RESOURCE TARGETING

1. **PURPOSE**. This notice establishes policy and procedures for implementing a new method of scheduling Aircraft Certification Systems Evaluation Program (ACSEP) evaluations at production approval holders and suppliers under FAA surveillance. This new method replaces the way ACSEP evaluations are currently scheduled in Order 8100.7, Aircraft Certification Systems Evaluation Program.

2. **DISTRIBUTION**. This directive is distributed to Washington headquarters branch levels of the Aircraft Certification Service; to the branch level in the Aircraft Certification Directorates; to all Aircraft Certification Service Offices; to the Aircraft Certification Branch at the Federal Aviation Administration (FAA) Academy; and to the Brussels Aircraft Certification Division.

3. **BACKGROUND**. Order 8100.7 requires that scheduling of ACSEP evaluations be accomplished according to the type of production approval a facility holds, or by its status as a supplier of priority parts to a production approval holder. This requirement essentially results in evaluating the majority of facilities every 24 to 48 months. In some cases, frequency may have been extended based primarily on performance. In terms of continued operational safety, therefore, the current scheduling requirements in Order 8100.7 assume that the majority of production approval holders and priority part suppliers have the same potential impact, and FAA resources are allocated accordingly. Experience with ACSEP, however, has demonstrated very clearly that there are different levels of potential impact to safety, and that a means to identify these potential impact levels should be developed in the interest of safety and effective resource allocation. An Aircraft Certification Service (AIR) national development team was established for this purpose. The team developed and field tested a model, known as the resource targeting model, which integrates the expert knowledge of AIR aviation safety inspectors and aerospace engineers to identify critical impact indicators that serve to categorize facilities according to their potential impact on continued operational safety. Categorization of facilities in this way provides a rational and justifiable basis for effective deployment of FAA resources.

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Initiated By: AIR-200

4. **IMPLEMENTATION TASKS AND RESPONSIBILITIES**. The implementation of ACSEP resource targeting relies heavily on automation for ease of recording and reporting. The following tasks will be completed prior to performing any facility assessments:

a. The Production and Airworthiness Certification Division, AIR-200, will provide a computer disk set containing FAA Form 8100-9, ACSEP Resource Targeting Facility Assessment Sheet, and associated documentation, to each Manufacturing Inspection District Office (MIDO). The software application contained on the disk set is the property of the FAA, and may be freely duplicated for internal FAA use or installed on as many computers as required. Form 8100-9 is only available electronically, and is designed to be completed electronically for subsequent upload into each Manufacturing Inspection Office (MIO) resource targeting database.

b. AIR-200 will provide a computer disk set, and associated documentation, containing the Microsoft Access resource targeting calculation program, to each MIO.

c. Upon receipt of the computer disk set containing Form 8100-9, each MIDO manager, and MIO manager as appropriate, should select one of the following installation options:

(1) Install the computer disk set on the computer workstations of all individuals who will need access to the form. The number of workstations should include those of all principal inspectors who will be completing Form 8100-9, and the workstation of the individual designated to perform the task identified in paragraph 4d below; OR

(2) Install the computer disk set on a single computer workstation. Typically, this should be the workstation of the individual designated to perform the task identified in paragraph 4d below.

d. Each MIDO manager, and MIO manager as appropriate, should designate an individual to collect and collate the completed automated assessment files and transmit them to the MIO.

e. Each MIO manager will ensure that Microsoft Access software is installed on at least one computer in the MIO.

f. Upon receipt of the computer disk set containing the calculation program, each MIO manager should install the files in accordance with the documentation received with the disk set. Each MIO manager should designate an individual to upload the MIDO automated assessment files to the database and print and distribute reports.

NOTE: For the purpose of this notice, the MIO and MIDO designated individuals will hereinafter be referred to as a resource targeting administrator (RTA).

g. Each Aircraft Certification Office (ACO) manager will designate an ACSEP resource targeting focal point and an alternate to coordinate MIO/MIDO requests for consultation in completing Form 8100-9.

5. **APPLICABILITY**. The following facilities are subject to resource targeting assessment:

a. Holders of an Approved Production Inspection System (APIS), Production Certificate (PC), Parts Manufacturer Approval (PMA), and/or Technical Standard Order (TSO) authorization. Holders of a letter of TSO design approval are not subject to resource targeting.

b. Suppliers to the facilities listed in paragraph 5a above that have been selected for FAA supplier surveillance under the process defined in Order 8120.2A, Production Approval and Surveillance Procedures, chapter 8.

> **NOTE: Facilities recently added to the certificate management workload shall not be subject to resource targeting assessment until after an initial ACSEP evaluation is performed. For a production approval holder, the initial ACSEP evaluation would be the first evaluation following the granting of the production approval. For a supplier, the initial ACSEP evaluation would be the first evaluation following the selection for supplier surveillance, or the first evaluation following hand-off.**

6. **RESOURCE TARGETING GROUPS**. Resource targeting assessment of each applicable facility will be based on 21 indicators that demonstrate a facility's increased potential for nonconforming products, parts, or services. The assessment is also based on the criticality of the product, part, or appliance. When taken collectively, the selected indicators and criticality category will identify a facility's potential impact on continued operational safety and the frequency of the ACSEP evaluation. Facility assessment will result in placing facilities into the following resource targeting groups:

a. Group I: Facilities with greatest potential impact on continued operational safety.

b. Group II: Facilities with moderate potential impact on continued operational safety.

c. Group III: Facilities with low potential impact on continued operational safety.

d. Group IV: Facilities with little or no potential impact on continued operational safety.

7. **RESOURCE TARGETING ASSESSMENT OF FACILITIES**. Assessment of facilities shall be conducted annually. Documentation of the facility assessment will be accomplished using Form 8100-9; refer to appendix 1. Do not assess facilities recently added to the certificate management workload unless an initial ACSEP evaluation has been conducted. See paragraph 5b NOTE above.

a. Assessment of facilities and completion of Form 8100-9 shall be completed annually no later than April 30. All MIO managers should allow enough time prior to this date for uploading the automated files described in paragraph 7h below, and for printing, distributing, and dispositioning the reports described in appendix 3 and paragraphs 7i through 7m below.

b. The validity of the information entered on Form 8100-9 is dependent upon the principal inspector's knowledge of the current status of each facility being assessed. To this end, the resource targeting model is designed to assign a resource targeting group to a facility only if a principal inspector (PI) has performed certificate management functions on site at the facility within the 12 months prior to the date the Form 8100-9 is completed. Certificate management functions are defined in Order 8120.2, paragraph 26b. In other words, if there has been no recent on-site PI activity, no assessment is performed and consequently no group is assigned. The result is a lack of structured guidance on how to effectively target resources at that facility. At least 90 to 120 days prior to the April 30 completion date, each MIDO manager, in coordination with the PI's, is strongly encouraged to identify facilities where no on-site activity will have been performed in the 12 months prior to the completion of Form 8100-9. Every effort should be made to schedule on-site activity at those facilities identified prior to completion of Form 8100-9.

c. When performing certificate management functions at a facility, it is recommended that the PI take along a printout of Form 8100-9 in order to facilitate the scheduled completion process.

d. The PI will coordinate with those facilities where certificate management functions were performed on site within the previous 12 months in order to obtain current or clarifying information relevant to the resource targeting company/facility indicators being assessed.

e. The PI will complete Form 8100-9 in accordance with appendix 1, paragraph 2, and appendix 2. When ACO consultation is considered to be of value in determining the appropriate assessment for the 21 indicators and/or the unit criticality, contact the ACO resource targeting focal point or alternate. The ACO resource targeting focal point, or alternate, will refer the request to the appropriate ACO staff member.

f. Upon completion of the requirements of appendix 1, paragraph 2, for all assigned facilities, the PI will discuss each completed form with the MIDO manager. For this purpose, the PI may print a copy of each Form 8100-9 or use an electronic copy. To the greatest extent possible, the PI and MIDO manager should agree on the final assessment ratings for each indicator and unit criticality. At the conclusion of the discussion, the PI will incorporate any changes in the automated file. The PI will then print each Form 8100-9, and sign and date each form. The PI will provide the signed forms to the MIDO manager, who will also sign and date the forms. The MIDO manager will return the signed Form(s) 8100-9 to the PI. The PI should file the signed forms in a single folder until the forms are finalized in accordance with paragraph 7m below.

g. Upon receipt of all applicable signed Form(s) 8100-9, the PI will:

(1) If the automated files are located on an individual PI's workstation, provide a copy of the respective automated files to the MIDO RTA; OR

(2) If the automated files are located on the MIDO RTA workstation, notify the MIDO RTA that Form(s) 8100-9 have been signed.

h. When all automated files have been received and compiled, the MIDO RTA will combine the automated files into a single automated file. If a single automated file was initially established, the MIDO RTA will ensure that all the supporting Form(s) 8100-9 have been signed. The MIDO RTA will then transmit the single automated file electronically to the directorate MIO and to AIR-200.

NOTE: The automated files transmitted by the MIDO RTA contain only the data entered as required by appendix 1, paragraph 2. Conversion of this data into the appropriate resource targeting groups identified in paragraph 6 above is accomplished by the software provided to the MIO RTA.

i. The MIO RTA will upload the automated files received from the MIDO RTA to the resource targeting database. When all automated files have been received and uploaded, the MIO RTA will simultaneously print and distribute a draft Directorate Report and an Office Report; refer to appendix 3. The draft Directorate Report will list all facilities assessed within the directorate and the respective resource targeting group assigned by the resource targeting model. The draft report will be distributed to the MIO manager and all directorate ACO managers for review. The Office Report will list the facilities assessed within each MIDO, or MIO as applicable, and their group assignments. It will be distributed to the respective MIDO manager, or MIO manager as applicable, for review. Electronic versions of the Office Report and the draft Directorate Report may be used to perform the reviews outlined in paragraphs 7j through 7m below. See appendix 3, paragraph 3.

j. Upon receipt of the draft Directorate Report, the ACO managers will review the resource targeting group assignments for the facilities for which they are responsible. Since each resource targeting group assignment is associated with a specific evaluation interval, the ACO Manager review is basically a verification that the evaluation interval assigned is appropriate based on any specific knowledge or experience that the ACO may have concerning a specific facility. Any inconsistency found should be noted, and a recommendation for the appropriate group assignment should be prepared, including a written justification for the recommendation. When the review is complete, the ACO manager will sign and date the draft report and return it to the MIO RTA. Every effort should be made to complete the review within 15 working days of receipt. When an electronic version of the draft report is used, the electronic mail message to the MIO RTA will include a statement that the ACO manager has coordinated on the draft report, including any applicable adjustments to the group assignments.

k. Upon receipt of the Office Report, each MIDO manager, or MIO manager as applicable, in conjunction with the respective PI's, will review the resource targeting group assignments. Since each resource targeting group assignment is associated with a specific evaluation interval, the MIDO Manager review is basically a verification that the evaluation interval assigned is appropriate based on any specific knowledge or experience that the MIDO may have concerning a specific facility. Any inconsistency found should be noted, and a recommendation for the appropriate group assignment should be prepared, including a written justification for the recommendation. When the review is complete, the MIDO manager, or MIO manager as applicable, will sign and date the report and return it to the MIO RTA. Every effort should be made to complete the review within 15 working days of receipt. When an electronic version of the report is used, the electronic mail message to the MIO RTA

will include a statement that the MIDO manager, or MIO manager as applicable, has coordinated on the report, including any applicable adjustments to the group assignments.

l. The MIO manager will review any recommendations received for changing group assignments, and coordinate with the respective ACO and MIDO managers to determine a mutually acceptable group assignment. When such a recommendation is received, the respective MIDO manager will coordinate with the respective ACO manager to determine a mutually acceptable group assignment. The MIDO manager will inform the MIO manager of the mutually acceptable group assignment, and will prepare a written justification if the group assignment differs from that in the draft Directorate Report. When all group assignments are mutually acceptable, the MIO RTA will prepare a final Directorate Report by updating the draft Directorate Report with the revised group assignments. The MIO RTA will submit the final Directorate Report to the MIO manager. The MIO manager will sign and date the final Directorate Report, and submit it to the MIO RTA for distribution to the ACO and MIDO managers. When an electronic version of the final Directorate Report is used for distribution to the ACO and MIDO managers, the electronic mail message will include a statement that the MIO manager has approved the report. Include AIR-200 as an addressee when the report is distributed electronically.

m. Upon receipt of the signed final Directorate Report, the PI will finalize Form 8100-9. Obtain the signed printed form and write in or type the original assigned resource targeting group and the adjusted resource targeting group, if applicable. Ensure that the justification for any group assignment adjustment is included. When adjustment is made to the resource targeting group assignment, send a copy of the completed Form 8100-9 to AIR-200. File the completed Form 8100-9 in the respective project folder.

> **NOTE: Any adjustment to the assigned resource targeting group after the MIO manager has approved the Directorate Report must be coordinated with the MIO manager. Document the adjustment and the relevant justification on Form 8100-9, and send a copy to AIR-200.**

8. **ACSEP EVALUATION INTERVALS**. Evaluation intervals have been established for each resource targeting group based upon the criteria indicated in paragraph 6 above. The evaluation intervals are designed to allow facilities with lower potential impact on continued operational safety to be evaluated less frequently. The evaluation intervals are established as follows:

a. Group I: ACSEP evaluation scheduled at 16- to 24-month interval.

b. Group II: ACSEP evaluation scheduled at 24- to 36-month interval.

c. Groups III and IV: ACSEP evaluation scheduled at 32- to 48-month interval.

> **NOTE 1: Group IV has been retained for planning purposes. Further study is planned to determine the feasibility of longer intervals or alternate evaluation methods.**

NOTE 2: The evaluation interval for each resource targeting group is intended to provide flexibility in scheduling a facility selected for ACSEP evaluation. Once selected, a facility may be scheduled at any time during the fiscal year, as long as the period of time since the facility's last ACSEP evaluation does not exceed the maximum interval for that facility's resource targeting group.

9. **EFFECT OF RESOURCE TARGETING ON ACSEP REPORT FOR FY99 AND SUBSEQUENT YEARS**. Preparation of ACSEP analytical reports is an integral part of ACSEP. The ACSEP reports for FY95 through FY97 are based on data collected from ACSEP evaluations scheduled in accordance with Order 8100.7. This schedule has been based on facility type only and has been developed by each directorate. The FY98 ACSEP report will also be based on this means of data collection. Beginning in FY99, scheduling of ACSEP evaluations will be based on resource targeting. In effect, ACSEP evaluation scheduling will be based on facility risk to continued operational safety rather than facility type. The effect of resource targeting for the FY99 report, and subsequent years, is the introduction of a different sampling methodology on which to base future analysis. This different sampling methodology has the potential to cause the analysis of trends for FY95 through FY98 to be invalid for use in any continuing analysis of trends. Inferential statistical analysis can be invalidated. Statistical rules of sampling would be violated and unquantifiable bias introduced into the analyses by evaluating "risky" facilities more often than the rest of the population. If the selection of facilities to be evaluated in FY99 is not carefully planned, it will be necessary to start a new baseline analysis in FY99, meaning that valid trend analysis could not begin until the ACSEP report for 2003. With careful planning, the analysis baselined in FY95 can continue, and valid trend analysis can begin with the FY99 ACSEP report. Use of a valid statistical selection method for U.S. facilities will mitigate the problems of a different sampling methodology and a facility selection bias. This will result in the ability to continue to use the FY95 through FY98 analyses in future trending, with valid trend analysis beginning in the FY99 ACSEP report. Since baselining of non-U.S. facilities for trending purposes has not been possible, selection of these facilities would continue to be a directorate responsibility.

10. **SELECTION AND SCHEDULING OF ACSEP EVALUATIONS AT FACILITIES LOCATED IN THE UNITED STATES**. For FY99, AIR-200 will select the facilities located in the United States (U.S.) that will be evaluated based upon a statistical method within the structure of resource targeting. Selection of U.S. facilities will be based on the final Directorate Reports and on the National Production Approval Holder/Supplier Database maintained by the Small Airplane Directorate MIO. Each directorate will be responsible for using the facility selection list provided by AIR-200 for scheduling ACSEP evaluations in FY99, and for assigning the resources necessary to satisfactorily complete each scheduled evaluation. The following principles are to be applied when selecting U.S. facilities and scheduling ACSEP evaluations in FY99:

NOTE: A workgroup comprised of directorate and headquarters representatives will be formed to develop the selection and scheduling process to be used for FY00. After official coordination of the FY00 process has been completed, it will be included in a separate policy document for use in FY00 ACSEP evaluation scheduling.

a. **AIR-200 Actions**. For FY99, AIR-200 will establish a statistical selection method that will select U.S. production approval holders or suppliers under FAA surveillance in accordance with the evaluation interval identified for its resource targeting group as indicated in paragraph 8 above. While most facilities selected for FY99 will have ACSEP evaluations due in FY99, some facilities may be selected whose ACSEP evaluations are not due until later fiscal years. This is due to the assignment of new evaluation intervals and the need to maintain a valid statistical basis. Some basic guidelines that AIR-200 will observe are as follows:

(1) For facilities having an assigned or adjusted resource targeting group, AIR-200 will establish facility selection based on the date of the facility's last ACSEP evaluation.

(2) When a facility holds a Delegation Option Authorization (DOA) or a Designated Alteration Station (DAS) authorization in addition to a production approval, AIR-200 will establish facility selection based on the resource targeting schedule indicated in paragraph 8 above. However, if the resource targeting evaluation interval exceeds the evaluation interval established for delegated facilities, facility selection will be based on the evaluation interval established for delegated facilities.

(3) Facilities having no assigned or adjusted resource targeting group will continue to be evaluated at the same frequency specified in Order 8100.7, paragraph 25a. AIR-200 will include these facilities in the statistical selection method. Each directorate should make every effort to perform certificate management functions at these facilities prior to the April 30, 1999, completion date for Form 8100-9. See paragraph 7b above.

(4) AIR-200 will provide each directorate with a list of the facilities selected for evaluation in FY99.

b. **Directorate Actions**. For FY99, each directorate is responsible for using the facility selection list provided by AIR-200 to schedule ACSEP evaluations and to assign appropriate resources for each evaluation. Accordingly, each directorate will perform the following:

(1) Validate the accuracy of the facility selection list as it applies to the directorate.

(2) Identify facilities not on the facility selection list where it would be prudent to perform an ACSEP evaluation. If a directorate determines that these facilities should be evaluated instead of other facilities on the selection list, the directorate will recommend selection of the applicable facilities to AIR-200. The impact on statistical validity will be evaluated by AIR-200, and any resulting selection adjustments will be coordinated with the directorate.

(3) When the facility selection list is established, assign ACSEP numbers, schedule evaluation dates for each facility, and determine the number of evaluators required. To maintain statistical validity, it is important that the order of the list be followed. Begin with the first facility listed and continue down the list in sequence until all resources have been expended. It is not required that the evaluation

dates be listed chronologically according to the order of the list. For example, the first facility on the list may be scheduled in May 1999, the second in November 1998, the third in September 1999, and so on. It is also not required to assign dates and resources to all facilities on the list.

(4) A directorate may select and schedule additional facilities for ACSEP evaluation that are not on the facility selection list, but only after all of the facilities on the selection list have been scheduled.

(5) Use the "System Strength" and "Inherent Risk" ratings in the Office Report or Directorate Report as an aid in scheduling evaluation dates for each selected facility. See appendix 3 for definitions of "System Strength" and "Inherent Risk." In general, the greater the rating for inherent risk, the shorter the evaluation interval should be, with the result that the evaluation should be scheduled closer to the beginning of the fiscal year. For example, a Group I facility that is rated as having substantial inherent risk and marginal system strength should be scheduled closer to the beginning of the fiscal year rather than at the end, while a Group I facility that is rated as having moderate inherent risk and marginal system strength should be scheduled closer to the end of the fiscal year.

(6) Notify AIR-200 when an ACSEP evaluation at a facility identified on the facility selection list is canceled. Postponement of an evaluation to the next fiscal year is considered a cancellation for the current fiscal year. When the facility notification schedule in Order 8100.7, paragraph 28, can be met, and appropriate resources can be reassigned, a replacement evaluation will be conducted. When the directorate determines that a replacement evaluation will be conducted, the directorate will advise AIR-200, who will then identify to the directorate a replacement facility using the established statistical selection method.

(7) Notify AIR-200 of other schedule changes and additions in accordance with Order 8100.7, paragraph 27b.

11. **SELECTION AND SCHEDULING OF ACSEP EVALUATIONS AT FACILITIES LOCATED IN COUNTRIES OR JURISDICTIONS OTHER THAN THE UNITED STATES**. Each directorate will be responsible for selecting and scheduling facilities located in countries or jurisdictions other than the United States. Scheduling of ACSEP evaluations will be based upon the completed Form 8100-9 for each applicable facility. The following principles are to be applied when scheduling ACSEP evaluations in FY99 using Form 8100-9:

a. **Facilities Having an Assigned or Adjusted Resource Targeting Group**.

(1) Establish each facility's next ACSEP evaluation date based on the date of the facility's last ACSEP evaluation.

(2) Schedule each facility in accordance with the evaluation interval identified for its resource targeting group as indicated in paragraph 8 above. Use the full range of the interval to manage available resources effectively and to reduce scheduling conflicts. Use the "System Strength" and "Inherent Risk" ratings in the Office Report or Directorate Report as an aid in determining the appropriate evaluation interval within the evaluation interval range. See appendix 3 for definitions of "System Strength" and

"Inherent Risk." In general, the greater the rating for inherent risk, the shorter the evaluation interval should be. For example, a Group I facility that is rated as having substantial inherent risk and marginal system strength should be scheduled closer to the 16-month interval rather than the 24-month interval, while a Group I facility that is rated as having moderate inherent risk and marginal system strength should be scheduled closer to the 24-month interval.

b. **Facilities Having no Assigned or Adjusted Resource Targeting Group**. Continue to use the scheduling criteria in Order 8100.7, paragraph 25a. Every effort should be made to perform certificate management functions at those facilities prior to the April 30, 1999, completion date for Form 8100-9. See paragraph 7b above.

c. Notify AIR-200 of schedule changes and additions in accordance with Order 8100.7, paragraph 27b.

12. **ACSEP RESOURCE TARGETING ASSESSMENT IN FY99**.

a. The first Form(s) 8100-9 were completed by each directorate in FY98. These forms were used to identify a resource targeting group assignment for each facility that was assessed. The group assignment established a new evaluation interval for each facility based on the resource targeting model. For example, Form 8100-9 for the XYZ Aircraft Company, located in the U.S., was completed on April 5, 1998. Based on the form entries, the facility was identified as a Group II facility. The evaluation interval for the XYZ Aircraft Company was therefore established to be 24 to 36 months.

b. The next Form(s) 8100-9 will be completed in FY99. In accordance with paragraph 7a above, this will be completed by April 30, 1999. The forms will be completed for all facilities assessed in FY98 that are in an active status, and for all facilities added since the FY98 resource targeting assessment, provided they have had an ACSEP evaluation prior to the FY99 resource targeting assessment (refer to paragraph 5b NOTE). The following guidance is applicable to the FY99 resource targeting assessment:

(1) If a facility's FY99 resource targeting group is the same as the FY98 group, the evaluation interval established in FY98 remains the same.

(2) If a facility's FY99 resource targeting group is different from the FY98 group, the following guidance is applicable:

(a) If a facility assessed in FY98 received an ACSEP evaluation after October 1, 1998, but prior to the FY99 resource targeting assessment, the resource targeting group and the evaluation interval established in FY98 will be changed to reflect the results of the FY99 resource targeting assessment. For example, the XYZ Aircraft Company was identified during the FY98 assessment as a Group II facility. The facility received an ACSEP evaluation on January 11-15, 1999. The FY99

resource targeting assessment of that facility was completed on March 25, 1999. The result of the FY99 assessment identifies the facility as a Group III facility. Since the resource targeting group for FY99 is different from that for FY98, the resource targeting group changes from Group II to Group III, and the evaluation interval changes from 24 to 36 months to 32 to 48 months.

(b) If a facility assessed in FY98 did not receive an ACSEP evaluation after October 1, 1998, and prior to the FY99 resource targeting assessment, the evaluation interval established in FY98 remains the same. In this situation, the results of the FY99 resource targeting assessment may be used to determine the need for additional certificate management activity at that facility. For example, the PQR Brake Assembly Company was identified during the FY98 assessment as a Group III facility. The facility is scheduled for an ACSEP evaluation in August 1999. The FY99 resource targeting assessment of that facility was completed on April 26, 1999. The result of the FY99 assessment identifies the facility as a Group II facility. The resource targeting group for FY99 is different from that for FY98; however, since no ACSEP evaluation was performed between October 1, 1998, and April 26, 1999 (the date of the FY99 assessment), the resource targeting group and the evaluation interval remain the same. The different FY99 resource targeting group, however, may be used to determine whether additional certificate management activity is needed at that facility.

(3) If a new facility has been added to the directorate workload since the FY98 resource targeting assessment, and an ACSEP evaluation has been conducted at that facility prior to the FY99 resource targeting assessment, Form 8100-9 will be completed for that facility. This form will be used to identify the resource targeting group assignment for that facility.

(4) If a new facility has been added to the directorate workload since the FY98 resource targeting assessment, but no ACSEP evaluation has been conducted at that facility prior to the FY99 resource targeting assessment, do not complete Form 8100-9. Establish a temporary evaluation interval until Form 8100-9 is completed.

13. **DISPOSITION OF AUTOMATED FILES**. All automated resource targeting files created by the PI, MIDO RTA, and MIO RTA to identify resource targeting groupings for the FY99 ACSEP evaluation schedule may be deleted after the FY99 evaluation schedule is finalized. The finalized schedule is generally the schedule that is published following the ACSEP Joint Scheduling Committee meeting, i.e., when the nationally-led evaluations are identified.

14. **ACSEP RESOURCE TARGETING VALIDATION PLAN**. The objective of ACSEP resource targeting is to effectively deploy FAA resources to those facilities that have the greatest potential impact on continued operational safety. In order to ensure that this objective remains viable, several validation efforts are planned. The following elements are included in the overall ACSEP resource targeting validation plan:

a. Correlation of assigned resource targeting groups resulting from annual facility assessments with ACSEP evaluation results. This analysis will provide information about the effectiveness of ACSEP resource targeting.

b. Correlation of assigned resource targeting groups resulting from annual facility assessments with in-service performance. This analysis will provide information about the impact of ACSEP resource targeting on continued operational safety.

c. MIO/ACO/MIDO review of assigned resource targeting groups resulting from annual facility assessments. This element, described in paragraphs 7j through 7l above, provides field-level validation of the results of the facility assessment.

d. MIO/ACO/MIDO adjustments to assigned resource targeting groups resulting from annual facility assessments. This element, described in paragraphs 7j through 7l above, provides for field-level adjustment of a facility's resource targeting group when the assigned group appears inadequate. Subsequent analysis of these adjustments can lead to decisions to revise the ACSEP resource targeting model to define more accurately the resource targeting groups.

e. Analysis of completed facility assessment data to identify low impact and seldom used indicators. This analysis will guide decisions to revise the ACSEP resource targeting model by eliminating indicators that are shown to be of little value in determining a facility's potential impact on continued operational safety.

/s/

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APPENDIX 1. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9, ACSEP RESOURCE TARGETING FACILITY ASSESSMENT SHEET

1. **PURPOSE**. This appendix provides instructions for completing FAA Form 8100-9.

2. **FACILITY ASSESSMENT**. Figure 1 shows sample data entry screens for the automated ACSEP Resource Targeting Facility Assessment Sheet. Blocks 1 through 8 provide the information required to assess the facility and to print a copy of Form 8100-9.

a. Using the ACSEP Resource Targeting Facility Assessment System software application, access the automated ACSEP Resource Targeting Facility Assessment Sheet by clicking on "Add New Record." Prepare the form as follows:

(1) **Block 1**. Enter the name of the facility being assessed. If there are several facilities with the same name, include a specific identifier, such as the location. The facility name entered should be consistent with other FAA documents listing the facility name.

(2) **Block 2**. Enter the Project Number (s). If there are several project numbers, enter the project number associated with the most critical product.

(3) **Block 3**. Enter the name of the PI assigned to the facility.

(4) **Block 4**. Enter the name of the MIDO to which the PI is assigned, or managed from. The MIDO manager should establish the standard name format to be used to ensure proper sorting of the Office Report.

(5) **Block 5**. Enter the date the data is being entered.

(6) **Block 6**. Click on "YES" if certificate management functions were performed on site at the facility within the previous 12 months. Click on "NO" if certificate management functions were not performed on site at the facility within the previous 12 months.

NOTE: If "YES" is selected, continue to fill in the form. If "NO" is selected, the automated form will bring up the message "Print Report and DO NOT continue." Click on "OK" and "Print Record." Proceed to paragraph 3 below. Blocks 7 and 8 will not be filled in if "NO" is selected.

(7) **Block 7**. Click on one of the following boxes for each of the 21 indicators, based on the criteria listed in appendix 2. After selecting the appropriate block, click on "Next Indicator" to proceed to the next indicator. Continue until all indicators have been assessed.

(a) **A**: Click on this box when the indicator being assessed occurred or existed during the rating period, and there is, as a result, an increased potential for nonconforming products, parts, or services.

APPENDIX 1. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9, ACSEP RESOURCE TARGETING FACILITY ASSESSMENT SHEET (CONT'D)

(b) **B**: Click on this box when the indicator being assessed occurred or existed during the rating period, but there is, as a result, no increased potential for nonconforming products, parts, or services.

(c) **C**: Click on this box when the indicator being assessed did not occur or exist during the rating period.

(8) **Block 8**. Click on the appropriate category block that best describes the criticality of the most critical product, part, or appliance at the facility.

b. When blocks 1 through 8 above have been completed, click on "Print Report" to obtain a printout of the entered data on Form 8100-9.

c. **Description of Data Entry Screen Buttons**. The primary data entry screen buttons used to perform the facility assessment have been addressed in paragraphs 2a and 2b above. Other buttons are used mainly for navigating or exiting the application. The complete list of buttons is described as follows:

(1) **A**: Described in paragraph 2a(7)(a) above.

(2) **B**: Described in paragraph 2a(7)(b) above.

(3) **C**: Described in paragraph 2a(7)(c) above.

(4) **Go to**: Allows selection of a specific indicator by entering a number between 1 and 21. This feature is useful for returning to an indicator that may have been deferred while waiting for additional information.

(5) **Add Record; New Record**: Provides a blank data entry screen for entry of data for another facility.

(6) **Previous Indicator**: Allows selection of the indicator that precedes the indicator currently displayed on the data entry screen. This feature allows for review of the previous indicator and for modifying any applicable entries when required.

(7) **Next Indicator**: Allows selection of the indicator that follows the indicator currently displayed on the data entry screen. This feature allows for sequential data entry of each indicator, as well as a means to review completed entries.

(8) **Print Record**: Allows printing of Form 8100-9 when the answer to the question addressed by paragraph 2a(6) above is "NO."

(9) **Main Menu**: Allows a return to the opening screen of the software application.

(10) **Cancel**: Allows for cancellation of the data entry for a facility prior to adding it to the record file. Canceling a record will delete all data entry for that record and force a return to the Main Menu.

(11) **Quit; Quit App**: Allows for exiting the software application without returning to the Main Menu. Data entered on the screen displayed will not be saved.

(12) **Print Report**: Allows printing of Form 8100-9 when all data entry is complete for a facility.

3. **FACILITY ASSESSMENT REVIEW**. Figure 2 shows a sample of Form 8100-9 based on the data entered in figure 1. Blocks 1 through 4 provide the information required to document the review process detailed in paragraph 7f of the text of this notice. Prepare the form by inserting in:

a. **Block 1**. The signature of the PI upon completion of the assessment.

b. **Block 2**. The date the form is completed.

c. **Block 3**. The signature of the MIDO manager upon agreement with the completed assessment.

d. **Block 4**. The date the MIDO manager agreed with the completed assessment.

4. **REVIEW OF RESOURCE TARGETING GROUP ASSIGNMENT**. Blocks 5 through 7 of figure 2 provide information about the resource targeting group assignment after receipt and disposition of the Directorate and Office Reports. Insert in:

a. **Block 5**. The original resource targeting group listed in the Office Report.

b. **Block 6**. The resource targeting group agreed upon by the responsible PI, MIDO manager, and/or MIO/ACO manager that is indicated in the final Directorate Report, if different than the original resource targeting group identified in block 5 of figure 2.

c. **Block 7**. The reason(s) for the adjusted rating entered in block 6. This should be typed.

NOTE: Any adjustment to the assigned resource targeting group after the MIO manager has approved the Directorate Report must be coordinated with the MIO manager. Document the adjustment and the relevant justification on Form 8100-9. Use the area indicated as block 7 in figure 2 for this purpose.

5. **FORM DISTRIBUTION**. Whenever blocks 6 and 7 of the form in figure 2 are completed, as described in paragraphs 4b, 4c, and 4c NOTE above, a copy of the form will be sent to AIR-200 to determine whether a change to the resource targeting model or the training material is required.

FIGURE 1. SAMPLE FAA FORM 8100-9 ENTRY SCREEN

ACSEP Resource Targeting Facility Assessment Sheet

❶ **Facility Name:** XYZ Aircraft Company ❷ **Project Number:** PA9999CE **ID:** **(Counter)**

❸ **Principal Inspector:** John Smith **MIDO:** ❹ Orlando ❺ **Response Date:** 12/11/97

Have you performed any on-site certificate mgmt functions at the facility in the last 12 mths? ❻ **Yes** **No**

Safety Indicators: **Use the scroll bar to the right of the text window below to view and read all criteria**

1. Change in Key Management

Management changes can have a significant impact - positive or negative - on a company's safety profile and potential for producing nonconforming outputs. In rating this indicator, consider the following:

- Management changes generally have a greater impact on small companies than on large companies, all other things being equal.
- Key managers may include people such as the director of quality/quality manager, facility manager, chief engineer, section or line managers, DOA/DAS coordinator, or company president/CEO.

❼ **Indicator 1:** **A** **B** **C** **Go to**

Add Record | **Previous Indicator** | **Next Indicator** | **Print Record** | **Main Menu** | **Cancel** | **Quit App**

KEY: **A) Applicable to company/facility for this rating period; increased potential for nonconforming products, parts, or services**
B) Applicable to company/facility for this rating period; NO increased potential for nonconforming products, parts, or services
C) Not applicable to company/facility for this rating period.

UNIT CRITICALITY

❽

☒ **Category 1 Product, Part or Appliance**	☐ **Category 2 Product, Part or Appliance**	☐ **Category 3 Product, Part or Appliance**
Failure could prevent continued safe flight and landing; resulting consequences could reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations.	Failure would not prevent continued safe flight and landing; resulting consequences may reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures.	Failure would have no effect on continued safe flight and landing of the aircraft.

Previous Indicator | **New Record** | **Main Menu** | **Quit** | **Print Report**

FIGURE 2. SAMPLE FAA FORM 8100-9

U.S. Department of Transportation
Federal Aviation Administration

ACSEP Resource Targeting Facility Assessment Sheet

❶ **Facility Name: XYZ Aircraft Company** **Response Date:** 12/11/97
Project #: PA9999CE
MIDO: Orlando **Principal Inspector:** Smith

Have you performed any on-site certificate management functions at the facility in the last 12 months? Yes

1.	Change in Key Management	C
2.	Turnover of Critical Staff	C
3.	Reduction in Workforce/Layoffs	C
4.	Expansion or Growth	B
5.	Merger or Takeover	C
6.	ACSEP or PI/CM Findings	C
7.	Civil Penalties	C
8.	Corrective Response History	C
9.	Cost of Quality	C
10.	Service Difficulties	C
11.	Complex Manufacturing Process	B
12.	Complex Product, Part, or Appliance	B
13.	New Manufacturing Process	C
14.	New/Emerging Technology	B
15.	Production Volume	B
16.	Product Continuity	B
17.	QC System Changes	C
18.	Engineering/Design Changes	B
19.	Increased Inspection Delegation to Suppliers	C
20.	Increased Use of Foreign Suppliers	A
21.	New Design in Production	B

Criticality: Category 1 Product, Part or Appliance

Key:
A) Applicable to company/facility for this rating period, increased potential for nonconforming products, parts, or services
B) Applicable to company/facility for this rating period, no increased potential for nonconforming products, parts, or services
C) Not applicable to company/facility for this rating period

FAA Form 8100-9 (10/97)

FOR OFFICIAL USE ONLY (when filled in)
Public availability to be determined under 5 U.S.C. 552

FIGURE 2. SAMPLE FAA FORM 8100-9 (CONT'D)

Facility Name: XYZ Aircraft Company **Response Date:** 12/11/97
Project #: PA9999CE
MIDO: Orlando **Principal Inspector:** Smith

Have you performed any on-site certificate management functions at the facility in the last 12 months? Yes

Principal Inspector: John Smith ❶ **Date:** 1/7/98 ❷

MIDO Manager: Mary Doe ❸ **Date:** 1/7/98 ❹

❺ **Assigned resource targeting group:** II ❻ **Adjusted resource targeting group:** I

Justification for adjusted resource targeting group: ❼

This facility relies almost exclusively on foreign suppliers for the manufacture of the complex parts of the aircraft. The main activity of the facility is the assembly of these complex parts into the completed product. Few procedures are in place to monitor supplier activity. There is also minimal staff assigned to monitoring supplier control.

FAA Form 8100-9 (10/97)

FOR OFFICIAL USE ONLY (when filled in)
Public availability to be determined under 5 U.S.C. 552

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA

1. **PURPOSE**. This appendix provides additional guidance to assist the PI in completing the assessment section of the automated ACSEP Resource Targeting Facility Assessment Sheet. Refer to appendix 1, paragraph 2a(7).

2. **SPECIFIC GUIDANCE**. There are 21 resource targeting indicators in the automated ACSEP Resource Targeting Facility Assessment Sheet. These indicators are listed in figure 1. Each of these indicators must be assessed by the PI. The criteria listed below provide guidance to assist the PI in completing this assessment. The criteria are intended to prompt the PI to consider a variety of elements and issues that may be applicable to the facility being assessed, and to make an informed judgment about the facility. The number assigned in parentheses to each criteria corresponds directly with the indicator number on the automated ACSEP Resource Targeting Facility Assessment Sheet.

Figure 1. Resource Targeting Indicators

1.	Change in Key Management
2.	Turnover of Critical Staff
3.	Reduction in Workforce/Layoffs
4.	Expansion or Growth
5.	Merger or Takeover
6.	ACSEP or PI/CM Findings
7.	Civil Penalties
8.	Corrective Response History
9.	Cost of Quality
10.	Service Difficulties
11.	Complex Manufacturing Process
12.	Complex Product, Part, or Appliance
13.	New Manufacturing Process
14.	New/Emerging Technology
15.	Production Volume
16.	Product Continuity
17.	QC System Changes
18.	Engineering/Design Changes
19.	Increased Inspection Delegation to Suppliers
20.	Increased Use of Foreign Suppliers
21.	New Design in Production

a. **Change in Key Management (1)**. Management changes can have a significant impact, positive or negative, on a company and its production/quality profile. In rating this indicator, consider the following:

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

(1) Management changes generally have a greater impact on small companies than on large companies, all other things being equal.

(2) Key managers may include people such as the director of quality/quality manager, facility manager, chief engineer, section or line managers, DOA/DAS coordinator, or company president/CEO.

(3) The background of new management personnel is key. In general, internal selections are less problematic than external hires, although a solid aviation or product background may compensate. Similarly, civil experience is often preferable to a military aviation background, since knowledge of the FAR and experience with the FAA are important.

(4) The reason behind any change(s) is also important. If it's performance-based, then the change may be an improvement. On the other hand, downsizing, streamlining, and reorganizations can reduce the amount of production/quality oversight within the company. New programs or product lines may alter existing lines of authority and supervision. Ownership changes may result in wholesale replacement of managers.

(5) Management changes can also affect overall company philosophy or operational priorities. A shift to a more aggressive sales focus may lead to reduced emphasis on compliance to the FAR and on quality. Cost-cutting and greater "bottom line" pressure can undermine or dilute a company's quality orientation.

b. **Turnover of Critical Staff (2)**. Loss of staff members who play a critical role in ensuring quality can dramatically impact the production of conforming products, parts, or services. Consultation with the appropriate ACO may be helpful in identifying these people and assessing the effect of their departure. Think about these issues if turnover of this type has occurred:

(1) Critical staff turnover generally has a greater impact on small companies than on large companies, all other things being equal.

(2) Critical staff may include people such as quality inspectors, foremen, engineers, test technicians, audit staff, designees; any one-of-a-kind specialty (e.g., level III NDT); or any key FAA contact.

(3) If losses are replaced or backfilled, consider the background of new staff. As with key managers, internal selections are preferable to external hires, although a solid aviation or product background may compensate. Similarly, civil experience is generally better than military, due to FAR/FAA familiarity. Technical expertise, however, is paramount for individuals in these key positions.

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

(4) If losses are not replaced or backfilled, consider the context. If the company is downsizing, streamlining, or reorganizing, losses of this type will almost always impact quality. If, on the other hand, the changes result from the end of a major project or program, there may be no cause for alarm.

(5) In any event, consider the strength of the company's quality system. If it's well established, with fully documented procedures, then it may be able to absorb the loss of key people without affecting quality. Consider whether the quality program remains intact, and is not being scaled back as these individuals leave.

c. **Reduction in Workforce/Layoffs (3)**. Workforce reductions and layoffs may or may not have an impact on quality; it depends on how and why they occur, and who's involved. Consider the following in assessing this indicator:

(1) Workforce reductions can generally be managed/absorbed more easily by large companies than by small companies, all other things being equal.

(2) The pace or rate of any reduction is important. If it's gradual, steady, and implemented over time, then there may be no cause for concern. On the other hand, if it's abrupt, haphazard, or uncoordinated, and/or occurs over a short timeframe, that's probably a sign of potential trouble.

(3) Obviously who is being downsized or laid off is critical. Assemblers and line staff may be of concern, while administrative and support staff probably won't be. Reductions in quality, engineering, or other areas key to FAA's interests should always raise a red flag.

(4) Another key consideration is the reason(s) for the reduction. If it's due to the end of a major program, or part of a normal industry cycle, it may not be problematic. Downsizing, streamlining, and reorganizations, by contrast, may be of concern depending on how they're handled. Any deemphasis on aviation work should be viewed with caution. In some cases, reductions may primarily involve the military versus the civil side of the house, and pose no great concern to the FAA.

(5) Whether or not the remaining staff are being retrained or cross-trained to perform new functions is also a factor here. The basic qualifications of staff performing key functions or roles, as well as the adequacy and effectiveness of any training provided to people assuming new or expanded duties, should be factored into your determination.

d. **Expansion or Growth (4)**. A company's expansion or growth can also raise potential quality concerns. Again, the how and why of these events is what you should look at when evaluating this indicator:

(1) The speed and breadth of growth are critical. If it's controlled and steady, as opposed to rapid, "overnight" expansion, there's generally less potential for problems. If the growth involves opening

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

a new facility or facilities, or results in new or additional geographic dispersion of the workforce, there could be quality issues.

(2) The nature of any growth also needs to be considered. More of what they've already been doing is generally not a problem. But if they're expanding into new business areas, product lines, technology, or production methods, watch out. Likewise, if they're acquiring new/additional approvals, heightened concern may be warranted.

(3) Don't overlook proxy growth, or internal growth, i.e., things that may not be immediately obvious. Greater use of outsourcing, subcontracting, or suppliers can expand a company's business without changing its staff or facility size. Similarly, an internal shift from military to civil work can significantly affect the quality picture. Generating more output with the same or fewer resources, through process streamlining or productivity enhancements, can also create de-facto growth.

(4) The extent to which staff size and capability have kept pace with any growth is also important. If they've added people, particularly designees, and/or provided appropriate training to staff in any new areas, that's a sign of well managed growth. The absence of such actions should probably raise a red flag.

e. **Merger or Takeover (5)**. Mergers and takeovers have become increasingly common in the aviation industry. Who's buying and what they are doing to or with the acquired company and its system should drive your rating here:

(1) A key question is whether or not the buyer (company or individual) has an aviation background; if not, you may be in for problems, at least initially. If they do, prior FAA experience and knowledge of the FAR is an additional plus, since they'll know the ropes better and also have a compliance track record you can check.

(2) A second key consideration is the impact on quality system(s). If the companies' products are substantially different, integrating their quality systems may be challenging and problematic. If a current PAH is taken over, keeping the core system approved by the FAA intact is of prime concern. Retaining key people, or replacing them with qualified staff, is also important here.

(3) Some merger or takeover transactions have no real impact in terms of quality. The outcome may simply be a name change, and/or it may occur at a very high level, e.g., mega-mergers among major DOD contractors. In these cases there's often no impact on the civil side of the company, or the changes don't "trickle down" to affect the production approval holder level.

f. **ACSEP or PI/CM Findings**. Findings resulting from prior FAA evaluations of an approval holder are a key part of any company's quality track record. In evaluating this indicator, consider the following variables:

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

(1) Critical subsystems generally include, but are not limited to, supplier control, manufacturing processes, special manufacturing processes, and design data control.

(2) Multiple findings from any single ACSEP evaluation, or over the course of a year as a result of PI/district audits, may be a signal of systemic problems. One or more safety-related findings, or evidence that any major system is not under control, are also usually grounds for heightened concern.

(3) Any repeat findings, either in ACSEP evaluations or PI/district audits, should raise a red flag. It's important, though, to consider how many full ACSEP evaluations the company has been through, and what the general trend in evaluation results has been. Companies that have been through multiple evaluations should, in general, perform better than first-timers. If they're not improving or holding steady, beware.

(4) Any sudden and/or significant negative change in a company's performance (e.g., from a single, minor finding to multiple findings, and/or the occurrence of safety issues) should be viewed with apprehension.

g. **Civil Penalties (7)**. Assessment of a civil penalty against a production approval holder is a significant sanction by the FAA. In evaluating this indicator for a given company, however, consider the following circumstances:

(1) The number, frequency, and nature of civil penalty actions is important. A single, isolated incident which resulted in a civil penalty may not be cause for alarm. Two or more civil penalties within one year, however, or any civil penalty based on safety related items, generally should be considered problematic.

(2) The company's civil penalty history is also important in assessing this indicator. In particular, any repeat civil penalty items, or any civil penalty issued due to failure to comply with an earlier administrative action, should raise a red flag.

(3) The overall magnitude or impact of the violation(s) may also be relevant to your assessment. For example, if an infraction involved a large number of products or units in service, and/or a high dollar value of materials, its quality impact may be more significant. Likewise, civil penalties which resulted from a suspected unapproved part investigation may also signal more serious problems.

h. **Corrective Response History (8)**. An approval holder's corrective response history is an indication of how seriously the company takes its quality responsibilities. Key variables associated with this indicator include the following:

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

(1) PAH responsiveness to problems is an important consideration. Some hallmarks of responsiveness include: demonstrated understanding of the issue(s) involved; timely, thorough, and complete action to fix problems; and taking steps to avoid repetition, e.g., by making changes to their system. The absence of one or more of these attributes is generally cause for concern.

(2) In some cases non-responsiveness may be unintentional, or due to mitigating circumstances. Relatively new companies, for example, and/or companies with inexperienced staffs may not meet the standards defined above, at least initially. Nonresponsiveness from companies which have held their approvals for more than a couple of years, however, should be considered a quality issue.

(3) The level of trust and quality of communication between the company and the FAA are also relevant to this indicator. Fast, professional, and thorough responses to inquiries or information requests should be the norm. Frequent contact and interaction with the PI, initiated by the company, should also be viewed positively. Negativity toward the FAA, on the other hand, particularly on the part of management, can impede communication and cooperation.

i. **Cost of Quality (9)**. Cost of quality information can be difficult to interpret and evaluate in terms of quality impact. Factors to bear in mind in assessing this indicator include the following:

(1) At present, cost of quality information is not generally available to the FAA. Most small companies don't track it in detail, and many others who do may be reluctant or unwilling to share it for proprietary reasons.

(2) One evaluation method is to look at the percentage distribution of quality costs among the three major cost categories of prevention, appraisal, and failure/rework. While there is no ideal distribution, in general the commitment of resources to up-front, preventive measures may indicate a more deliberate and proactive approach to quality control.

(3) Trends in a company's cost of quality over time may also be relevant. Sharp movement, either up or down, is often a warning sign. Changes in a particular area, as opposed to overall, may point to specific problems. What's behind the cost changes may also be important. New technology, new production systems or methods, or outsourcing/offshore operations can all drive cost of quality up or down.

(4) In addition to formal cost of quality data, there are also several "proxy" indicators of quality costs. High scrap or rework rates during routine production runs, for example, may be a signal of problems in the system. A high volume of warranty returns may also indicate problems, as can a high level of MRB activity.

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

j. **Service Difficulties (10)**. In-service difficulties caused by manufacturing defects or poor quality control can be an indication of serious system problems. Consideration of the following points can assist you in evaluating this indicator. Discussion of specific points with the ACO resource targeting focal point may also be beneficial.

(1) Overall very few service difficulties are traced back or attributed to manufacturing or quality problems; the vast majority are due to maintenance or operational factors.

(2) Generally, in-service problems are more common for large companies that manufacture long-life service parts, or entire aircraft and engines. For these kinds of approval holders, the key consideration is repetitive problems, and/or if a pattern of discrepancies emerges over time.

(3) For service difficulties which are attributable to manufacturing, the overall magnitude or impact of the problem may be relevant to your assessment. For example, if a service difficulty involved a particularly severe or dangerous problem, or a large number of products or units in service, its quality impact may be more significant. A single isolated incident, on the other hand, may not always be cause for alarm.

(4) Significant service difficulties will generally trigger an immediate response, which can include an emergency or special ACSEP evaluation, as appropriate.

k. **Complex Manufacturing Process (11)**. Evaluating the complexity of an approval holder's manufacturing process requires consideration of a number of variables. Major criteria to apply in this regard include the following:

(1) The number and type of steps involved in a process often drive complexity. Generally, the more things that must be tracked, controlled, and/or sequenced, and the more special processes involved, the more complex the process. In particular, the number of process elements which must be critically controlled is a complexity driver.

(2) The latitude or lack thereof afforded to system operators is also frequently linked to complexity. Other characteristics to look for include detailed and intricate process specifications, and/or frozen or limited process changes subject to engineering source approval. Similarly, the more frequently the process is audited or validated, the greater its probable complexity.

(3) Multiple, indepth, and expensive testing requirements for the end item or product can also be a reflection of manufacturing process complexity. Intricate and sophisticated test procedures are sometimes, but not always, required based on how the product was manufactured.

(4) The qualifications and skill level of both company and FAA staff relative to the process(es) are also important. Even a simple, well-established process can be complex to those who aren't experienced

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

in or knowledgeable of the technology involved. In most cases, the longer a company has been working with a technology, the less need for concern. Evidence that skill levels are being maintained or upgraded is also important.

(5) Outsourcing of manufacturing processes, both production and testing, is also an element to consider. If, for example, key complex elements of the process are subcontracted to highly expert firms, the potential risk may be lessened.

l. **Complex Product, Part, or Appliance (12)**. Evaluating the complexity of an approval holder's product, part, or appliance likewise involves a number of variables. Consideration of the following points can assist you in evaluating this indicator. Discussion of specific points with the ACO resource targeting focal point may also be beneficial.

(1) The number of components, subsystems, or subassemblies in the end item often drives its complexity. Any dynamic or rotating parts or assemblies, as well as if the item or any of its elements is life limited, are also strongly linked to complexity. Similarly, the more functions the item performs, and/or the more failure modes it has, the greater its probable complexity.

(2) The degree of integration and/or interdependence of the end item with other parts or systems is also a complexity driver. In general, clear functional boundaries between the item and other components or systems create less complexity than overlapping, integrated, or fuzzy relationships. If any other systems are dependent on the end item, that typically increases overall complexity.

(3) The materials used in the end item are also relevant to complexity. If it includes any non-traditional, exotic, or revolutionary materials, and/or material(s) which haven't been used in this way before, then its complexity is probably heightened. As with process complexity, the company's experience and skill with the material or product is also a factor. Limited knowledge or expertise can make simple things complicated.

(4) Another good indicator of complexity is the item's certification basis. If defining the rule(s) and/or finding compliance with the FAR was difficult, or if multiple exemptions or special conditions were required, that may also reflect the item's complexity.

m. **New Manufacturing Process (13)**. Introduction of a new manufacturing process, whether truly original or just new to the company, can create potential quality issues. Consider the following for this indicator:

(1) Approval of the quality manual change or update incorporating any new process is a major milestone; however, it is generally not the end of PI concern and interest.

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

(2) How well the new process is understood by the company, the FAA, and industry in general is an important consideration. If company staff are trained or certified in the new process, and if industry standards exist, the potential for difficulties is generally lessened. If, on the other hand, the company is implementing a one-of-a-kind process, heightened concern is probably warranted.

(3) The extent to which the company has demonstrated control of any new process is also key. An acceptable or normal rejection rate and limited MRB activity are generally positive signs of control. Documented repeatability and reliability should also be expected. In-service experience with no quality problems in evidence is likewise a sign of full process integration and control.

n. **New/Emerging Technology (14)**. Often what's considered new or emerging technology is in reality an extension or iteration of existing knowledge and methods. Evaluate the following criteria with respect to this indicator for companies employing new technology. Discussion of specific points with the ACO resource targeting focal point may also be beneficial.

(1) The history of the technology can help determine if the new/ emerging designation is really appropriate. If it's never been used at all, by anyone in civil aviation, or if it's never been used in this type of application, product, or system, then it should be considered new, and a potential quality system issue.

(2) The breadth of the technology's usage may also be relevant. If it's specific to this manufacturer, or perhaps to only a small number of companies, then there may be cause for concern. The absence of an established body of knowledge, e.g., industry standards, is also a good indicator that heightened FAA interest may be appropriate.

(3) The product or item's certification basis can likewise tell you if the technology is truly new. If the end item or core technology was not covered by the FAR, or if any new or revised rules resulted from its certification, it should probably be considered new technology.

(4) The technology's service history should also be considered. If it has a substantial number of service hours or cycles, such that failures are explainable, understood, and predictable to some extent, then in general it would not be considered new or emerging technology.

o. **Production Volume (15)**. Changes or fluctuations in a company's production volume may or may not be cause for concern. Circumstances or influences to think about for this indicator include the following:

(1) The magnitude and rate of any volume changes are important. A fractional increase or decrease is generally not an issue, but a multiple change probably should be cause for concern. Gradual and steady adjustments can usually be managed well, while rapid and/or haphazard movement, either up or down, often indicates underlying problems.

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

(2) The reason for the change is likewise critical. New orders or product lines can drive up production quickly, as can short or special product runs. On the other hand, downsizing, mergers, or takeovers can move the numbers rapidly in the opposite direction. Normal industry cycles may produce predictable volume changes.

(3) When and how often changes occur is also important. If the company is pushing to meet end of month/quarter/year production targets, or to meet contract due dates and possibly avoid penalties for late deliveries, watch out. If these kinds of fluctuations are repetitive, however, the company may have enough experience with them to manage effectively.

(4) The bottom line consideration should be the company's capacity to handle the changes. If they acquire or maintain an adequate number and type of staff, including a sufficient number of designees, then concern may not be warranted. Likewise, if their quality system is revised to handle any changes, up or down, volume fluctuation may not be problematic.

p. **Product Continuity (16)**. Product continuity is generally regarded as positive, but there can be a down side. Consider the following when evaluating this indicator:

(1) Determine if the continuity has had any negative consequences. Risks include complacency, lax adherence to procedures, and corner-cutting. Companies may go on "automatic pilot" after a period of time. If the product has been totally static, without even minor improvements or enhancements, that may be grounds for concern.

(2) The context of the product's continuity is also important. If suppliers and material sources have been stable as well, that's generally positive. However, if they've been constantly in flux, the continuity may be illusory. Similarly, if the company's key staff/internal knowledge base been depleted, there may be potential for problems.

(3) The reasons for any continuity or discontinuity should be examined. Resistance to change or limited resources/capabilities are often behind static continuity. Purchase of certificates, addition of product lines, and downsizing, mergers, or takeovers, by contrast, frequently create discontinuity. In either event, heightened FAA interest may be appropriate.

q. **Quality System Changes (17)**. Quality system changes are a regular, recurring, and expected part of the production approval holder program. Circumstances or factors, however, which might provide grounds for concern in this area include the following:

(1) In general, large companies make more frequent, proactive changes to their quality systems, while smaller companies tend to make fewer, more reactive (i.e., FAA driven) changes.

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

(2) The reasons behind any system changes are critical. Process improvements or enhancements are often positive, provided they're not motivated primarily by cost-cutting and FAR compliance is maintained. Changes based on FAA recommendations/findings are likewise to be encouraged. Changes initiated in pursuit of ISO-9000/9001 certification may warrant concern in light of FAR compatibility issues. Wholesale changes instituted by a new quality manager may trigger subsequent problems.

(3) The overall nature and magnitude of changes to the system should be considered. Minor, administrative changes are probably not an issue, but major, substantive changes, e.g., transitioning to TQM, SPC, etc., may give rise to potential quality system issues. If the FAA has not fully reviewed these changes, additional concern is probably warranted.

(4) If transitioning to team approach (TQM), look for characteristics of a good program: implementation plan, not rushing into it; thorough training program for affected staff; interim review and oversight of process during transition period; final inspection retained, with a unique stamp; and no diminution of "quality focus/mindset" once new methods are in place.

r. **Engineering/Design Changes (18)**. Engineering or design changes are likewise not uncommon or necessarily problematic; why they're initiated and how they're handled is the key. Look at the following criteria with respect to this indicator. Discussion of specific points with the ACO resource targeting focal point may also be beneficial.

(1) The strength and adequacy of the design data control system is paramount. All design changes should be well described and fully documented, in a timely and consistent manner. If they're not, be concerned. Look for positive characteristics such as simplicity and ease of administration. Automated systems, e.g., CAD, require qualified staff to manage them.

(2) The predominant nature of the changes is also important. Product enhancements, improvements, or customizing generally are not cause for concern. Changes made to correct problems, by contrast, may be. Customer-driven changes may reflect potential problems more frequently than self-generated ones. Major changes generally should cause greater concern than minor ones.

(3) Also consider the company/product context. Large companies building type-certificated products against newer designs will often have many design changes. Likewise, supplemental type certificates may also generate many changes. Newer, less experienced companies with many changes may raise a red flag.

s. **Increased Inspection Delegation to Suppliers (19)**. Increased delegation of inspection authority to suppliers can raise potentially serious quality concerns. Key considerations in evaluating this indicator include the following:

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

(1) The strength and adequacy of the company's supplier control system is critical. The system should be well documented and stable, not subject to constant changes. How often they get out to their suppliers is also key. If the buyer doesn't visit or audit on a regular basis, that should be a red flag. If the company "qualifies" or trains its suppliers, that's often a definite plus.

(2) Look at methods/systems used by the company. If they've implemented dock-to-stock or just-in-time delivery programs, the potential for problems may be greater. Damage and content inspection alone, as opposed to receiving inspections or source sampling, can also be cause for concern. Delegation of testing is also a potential red flag.

(3) The suppliers themselves should have a quality system in place, either the buyer's or their own, with written procedures. There should also be documentation that procedures are followed. Absent these conditions, heightened concern is warranted.

(4) Any surveillance hand-offs between MIDO's should also be considered. If the local MIDO doesn't or can't oversee the supplier(s), and/or if information and reports aren't exchanged with the responsible PI on a regular basis, the potential for problems is usually much greater.

t. **Increased Use of Foreign Suppliers (20)**. Substantial growth in the number of foreign suppliers in recent years has raised a variety of new issues and concerns. In assessing this indicator, the following considerations should be paramount:

(1) The extent of control and oversight exercised by the approval holder is critical. Use of dock-to-stock or just-in-time delivery methods with foreign suppliers may be cause for concern. Infrequent visits to foreign suppliers by the prime should also raise a red flag. If the FAA is able and allowed to perform surveillance, that's a definite plus, provided any hand-offs are well managed.

(2) What the suppliers are doing or making is also important in assessing potential impact. If it's assembly only, there may be less cause for concern. If, on the other hand, they're producing major components or subsystems, or entire end products, the potential for quality issues is much greater. The priority or criticality of what they're producing is also of obvious importance.

(3) Look at the approval holder's rationale for using foreign suppliers. If it's primarily cost-cutting, or the result of an offset contract stipulation, there may be a basis for concern. On the other hand, joint ventures or agreements to gain access to specialized expertise or technology may be less problematic.

(4) The impact of any bilateral agreement should also be considered. If an agreement is in place, the civil aviation authority of the supplier's country conducts appropriate surveillance, and the information is shared with FAA, this may offset other concerns. If not, 100 percent incoming inspection of critical/priority items should be performed by the production approval holder.

APPENDIX 2. ACSEP RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)

u. **New Design in Production (21)**. The introduction of a new design into the production system usually proceeds without major difficulty. Consider the following in assessing this indicator. Discussion of specific points with the ACO resource targeting focal point may also be beneficial.

(1) In most cases, new designs represent an evolution or iteration of what companies have already been building. Seldom is the change revolutionary or a major technological leap forward.

(2) The company's experience with related product lines is important. If the new design is a major departure from what they've done before, and the end item is really "new" to the company, then heightened concern is prudent. If, on the other hand, it's simply the latest version of something they've been building, there's likely to be little impact.

(3) The degree of change or adaptation required in the existing production system is perhaps most critical. Some new designs require no or minimal changes, while others involve major alterations or essentially new process(es). Either of these is potentially less problematic than one that requires many small, specialized, intricate, or easily missed changes.

(4) The origin of the new design may be a factor as well. Buying the design/approval, as opposed to developing an original in-house, in some cases may create transition or integration issues. Acquiring a new design through a merger or takeover likewise may create potential safety concerns.

APPENDIX 3. ACSEP RESOURCE TARGETING REPORTS

1. **PURPOSE**. This appendix explains the layout of the Directorate Report and the Office Report.

2. **TYPES OF REPORTS**. Two types of reports will be printed and distributed: the Directorate Report and the Office Report. The Directorate Report will list all facilities assessed within the directorate. An Office Report will be prepared for each MIDO, or MIO as applicable, and will list the facilities assessed within each MIDO, or MIO as applicable. Each type of report is formatted as follows:

a. **Facility Name**: Self-explanatory.

b. **Principal Inspector**: The name of the PI who completed the form.

c. **System Strength**: A rating of "Optimal," "Adequate," or "Marginal" will be indicated. System strength encompasses factors over which a facility generally has more direct control or influence, i.e., the stability of the organization, its performance history, and the various elements and influences which drive its production dynamics. A rating of "Optimal" indicates that the strength of the system in place has been assessed as having little potential impact on the integrity of FAA-approved design and product quality. A rating of "Adequate" indicates that the strength of the system in place has been assessed as having an average potential impact on the integrity of FAA-approved design and product quality. A rating of "Marginal" indicates that the strength of the system in place has been assessed as having a substantial potential impact on the integrity of FAA-approved design and product quality.

d. **Inherent Risk**: A rating of "Substantial," "Moderate," or "Minimal" will be indicated. Inherent risk encompasses factors which are generally associated with the type of business the facility has chosen to be in, and remain constant unless the facility changes its business. These factors are the level of technology with which the facility is working, and the criticality of the end unit or units of production. A rating of "Substantial" indicates that a facility's level of technology has been assessed as having a substantial potential impact on the integrity of FAA-approved design and product quality, and the unit criticality has a substantial potential impact on continued operational safety. A rating of "Moderate" indicates that a facility's level of technology has been assessed as having a moderate potential impact on the integrity of FAA-approved design and product quality, and the unit criticality has a moderate potential impact on continued operational safety. A rating of "Minimal" indicates that a facility's level of technology has been assessed as having little potential impact on the integrity of FAA-approved design and product quality, and the unit criticality has no potential impact on continued operational safety.

e. **Resource Targeting Group Assigned**: Self-explanatory.

3. **ELECTRONIC REPORTS**. The Office Report and the Directorate Report may be saved as Microsoft Excel files in order to facilitate the review process detailed in paragraphs 7j through 7m of the text of this notice. Using the ACSEP Resource Targeting Facility Assessment System Roll Up software, the MIO RTA may convert the reports using the following method, and forward them via electronic mail:

APPENDIX 3. ACSEP RESOURCE TARGETING REPORTS (CONT'D)

a. **Report Conversion**. Each of the reports may be converted as follows:

(1) At the Main Menu, click on "Reports."

(2) Double click on "rptDirectorate" to view the Directorate Report, or on "rptMIDO" to view the Office Report.

(3) Enter the data requested on the screen.

(4) With the selected report on screen, click on "File/Output To."

(5) Click on "Microsoft Excel (*.xls)."

(6) Click on "OK."

(7) Choose the directory and file name where the report will be saved.

b. **Using the Electronic Report**. When converted to a Microsoft Excel spreadsheet, each report will list the applicable facilities, the assigned groups, the responsible MIDO, system strength, and inherent risk. When using this file during the MIO/ACO/MIDO review of the assigned groups, recommended adjustments to the assigned group can be entered in column A of the spreadsheet. The recommended adjustment should be annotated within parentheses in order to differentiate it from the assigned group. Written justification for the recommended adjustment can be entered in column F. See figure 1 below.

FIGURE 1. SAMPLE ELECTRONIC REPORT

A	B	C	D	E	F
PriorityGroup Conv	**Company**	**Office**	**SystemStrength**	**InherentRisk**	
II	ABC Tire Corporation	Orlando	Adequate	Moderate	
II	Better Aircraft Parts	Orlando	Adequate	Moderate	
II (I)	XYZ Aircraft Company	Orlando	Optimal	Substantial	Foreign suppliers manufacture majority of complex parts. Facility has minimal staff asssigned to monitor supplier control.